

REMARKS**Interview**

Applicants wish to thank Examiner John Goff and Supervisory Examiner Blaine Copenheaver for the courteous and helpful interview extended to the undersigned attorney of record, Justin Mehaffy, and George Hespe on Thursday, September 16, 2004.

During the interview, proposed amendments, the applied art of record (Jones et al., WO 00/20157 and Shaw et al., U.S. Patent No. 5,498,304), and the disclosure of the Souder patent (U.S. No. 4,156,626) were discussed.

Amendment

Claims 11 and 12 have been amended to recite that the adhesive reactivates upon exposure to radiant energy for less than about 10 seconds. Support may be found on page 6, line 12, and page 8, line 9. New claim 40 has been added. Support may be found in the claims as originally filed (e.g., claim 14), page 3, line 18 and on page 6, lines 12/13. No new matter has been added. New claim 40 reads on the elected invention. Entry is respectfully requested.

Section 102 rejection (Jones)

Claims 11, 20-22 and 24 stand rejected under 35 U.S.C. § 102 (b) as being anticipated by Jones et al. (WO 00/20157). The examiner refers in particular to the disclosure of Jones on page 5, lines 28-34, and argues that the coextrusion or overmolding described by Jones is a pre-application of an adhesive to the substrate surface, which is later reactivated. Applicants disagree

The Jones reference is directed to a method of forming a *weld* between two work pieces. The examiner is referred to Figure 2 of Jones and to the Jones disclosure on page 8, lines 20-27:

when the joint region 13 is exposed to the radiation beam 14, the weld material 16 absorbs heat causing heating of the surrounding joint region 3 [sic, 13]. Consequently the plastic workpieces 11, 12 melt in the joint region 13 and on cooling form a *weld* (emphasis added).

Reference is also made to page 7, lines 29-33, of Jones:

Welding occurs as a result of the heat generated giving melting of the plastic material up to a depth of typically 0.2mm. Where *compatible* material is in good contact *interdiffusion of molecules and hence welding will occur* (emphasis added).

Thus, Jones teaches a process of welding, not a process of adhesive bonding as claimed by applicants. Not only does the Jones disclosure lack any reference to an adhesive, but a fair reading of the Jones disclosure by one of ordinary skill in the art is that Jones relates to a welding process whereby two substrates are welded together, not to a process of bonding substrates together using an adhesive composition. Applicants' adhesive is used to bond a first substrate to a second substrate. In contrast, Jones' insert is used to weld a first substrate to a second substrate. Again, one skilled in the art would not equate the process of bonding using an adhesive with the process of welding.

While applicants maintain the position that one skilled in the relevant arts would not equate the process of bonding using an adhesive with the process of welding, Jones clearly fails to disclose or even suggest that an adhesive pre-applied on a substrate can be reactivated upon exposure to radiant energy for a period of time of less than about 10 seconds and used to join that substrate to a second substrate. Thus, claims 11, 20-22 and 24 are not anticipated by the disclosure of Jones.

Reconsideration and withdrawal is requested.

Section 102/103 rejection (Shaw)

Claims 11, 20, 21 and 29 are rejected under 35 U.S.C. § 102 (b) as being anticipated by or, in the alternative, under 35 U.S.C. § 103 (a) as being anticipated by Shaw et al. (U.S. Patent No.

5,498,304).

Shaw discloses a process whereby the speed of adhesive bonding of a linerboard to a corrugating medium can be increased, allowing a decrease the length of the production floor.

In the process of Shaw, adhesive bonding is achieved with the application of radiant energy at a wavelength for which water, paper and adhesive have a low absorption coefficient (col. 1, lines 46-51). Low absorption is desired in order to have high transmission such that the heat transmits all the way through the constructed corrugated board, i.e., the heat penetrates deep into the paper structure and into the adhesive (col. 2, lines 48-51). It is clear that the adhesive of Shaw does not contain an ingredient added in order to increase energy absorption of the adhesive.

The examiner is referred to Figure 2, where heat from the radiation source (14) passes through the liner (2), then through the adhesive present on the tips of the fluted medium between the medium and the liner and then to the medium (1). Reference is also made to Figure 3 where the radiation sources (44) are positioned along the production line such that they preheat and soften the corrugating mediums (22 and 23) to facilitate corrugation, or are used to heat the liner (21 and 24) and facilitate adhesive bond formation by transmission of heat through the liner to the adhesive and into the corrugated medium.

While applicants acknowledge that Shaw, as noted by the examiner, discloses that instead of the starch or polymeric adhesive, a thermoplastic film capable of bonding paperboard may be fed between the nip of rolls 10 and 11 of Figure 2 or 32 and 34 of Figure 4 and subsequently subjected in IR radiation, to melt the film into an adhesive layer (col. 4, lines 43-47), such disclosure does not anticipate or render obvious the pre-application of an adhesive containing an energy absorbing ingredient to the substrate, which adhesive is later reactivated by use of radiant energy. In the process of Shaw, IR radiation is transmitted through the liner to the thermoplastic film. The

thermoplastic film of Shaw is not applied adhesively to the substrate to be bonded, but may become an adhesive layer following transmission of energy through the liner, i.e., becomes *initially* adhesive, rather than being reactivated as defined and claimed by applicants. Moreover, the adhesive use in the practice of Shaw is one that has a low absorption of radiant energy and thus could not comprise an energy absorbing ingredient.

There is no disclosure or suggestion in the Shaw disclosure that the adhesive has been pre-applied to the substrate, and later reactivated using radiant energy, let alone that reactivation occurs upon exposure to radiation of less than about 10 seconds.

Applicants submit that claims 11, 20, 21 and 29 are neither anticipated nor rendered obvious by the disclosure of Shaw.

Reconsideration and withdrawal is requested.

Section 103 rejection (Jones)

Claims 13 and 14 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Jones et al. (WO 00/20157).

The examiner urges Jones teach all the limitations except for those recited in claims 13 and 14. Applicants disagree.

Applicants incorporate by reference their remarks set forth above with respect to the Jones document. Claims 13 and 14 are directed to a method of closing a container. Jones fails to disclose or suggest that the process described can be used to close a container. As such, claims 13 and 14 is not obvious over Jones.

Reconsideration and withdrawal is requested.

Section 103 rejection (Shaw)

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Applicants incorporate by reference their remarks set forth above with respect to the Shaw document. Claims 13 and 14 are directed to a method of closing a container. Shaw fails to disclose or suggest that the process described can be used to close a container. As such, claims 13 and 14 is not obvious over Shaw.

Reconsideration and withdrawal is requested.

Section 103 rejection (Shaw in view of Jones)

Claims 22 and 24 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over Shaw et al. (U.S. Patent No. 5,498,304), as applied to claims 11, 20, 21 and 29, and further in view of Jones et al. (WO 00/20157).

It is the examiner's position that Shaw teaches all of the limitations in claims 22 and 24 except for a specific teaching as to the type of energy-absorbing ingredient in the polymeric adhesive. The examiner urges that it would have been obvious to one skilled in the art to use as the energy absorbing ingredient in the radiant energy activatable polymeric adhesive taught by Shaw dissolvable organic dyes as it was well known in the art to use dissolvable organic dyes as radiant energy absorber ingredients as shown by Jones. Applicants disagree.

Applicants incorporate by reference their remarks set forth above with respect to the Shaw and Jones documents. The Shaw invention is directed to the transmission of radiant energy through

the corrugated construct. Shaw provides no motivation, and in fact leads away from the inclusion of a component in the adhesive that would absorb radiant energy. Applicants submit that Shaw and Jones are not properly combinable.

Reconsideration and withdrawal is requested.

Section 103 rejection (admitted art in view of Jones)

Claims 11-14, 20-22, 24 29-32, 34 and 39 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over the admitted prior art in view of Jones et al. (WO 00/20157).

Applicants acknowledge that hot melt adhesives are conventionally used to seal containers and that the adhesives may be pre-applied and then reactivated prior to sealing. It is the examiner's position that it would have been obvious to one skilled in the art to modify the prior art hot melt adhesives to include an energy absorbing ingredient to increase the speed at which the adhesive is reactivated. Applicants submit that the examiner has failed to establish a *prima facie* case of obviousness.

The prior art does not suggest or provide any motivation to use energy absorbing ingredients in amounts needed to reactivate an adhesive present on a substrate upon exposure to less than about 10 seconds of radiant energy as claimed by applicants. The combined prior art fails to suggest the claimed modification or a reasonable expectation of success. At the very most it may be argued that it may be obvious to try, but obvious-to-try is not the standard for determining obviousness.

The examiner is relying on the Jones document to supply the required motivation. Clearly the Jones disclosure, as noted above, does not teach the use of an adhesive to bond two substrates together but, rather, use of a weld material. The prior art does not suggest or provide any

motivation to use energy absorbing ingredients in amounts needed to reactivate an adhesive present on a substrate as claimed by applicants. The combined prior art fails to suggest the claimed modification or a reasonable expectation of success.

Reconsideration and withdrawal is requested.

Souder (U.S Patent No. 4,156,626)

Souder describes thermal sealing of surfaces by using visible light emissions which are disclosed as having characteristics that enhance focusability. It is the essential feature of Souder that visible light be used (see, abstract (line 12); col. 4, lines 30, 34, 61, and 65; col. 6, lines 8, 33, and 48; col. 7, line 13/14; col. 8, line 2, col. 9, line 31, 46, and 49). An inspection of the prosecution history also confirms that use of visible light is essential to the practice of the invention.

Souder further teaches treating discrete areas of the surface with a marking (i.e., printing inks and dyes) absorbent of the focused radiant energy. While it is apparent from the disclosure, including drawing figures, that preferably the surface to be sealed is itself marked so as to improve the transmission of heat energy from the marked subsurface into the coating layer to be heated, use of a coating layer dyed in a discrete area or application of a pigment adhesive in a discrete area only are also disclosed as possibilities. Souder also discloses, as being preferable, that both of the contacting surfaces (lapped sheets) are coated (see, col. 5, lines 50-54). The exemplified coating layer is a thermoplastic material such as a polyethylene plastic.

While Souder broadly discloses that use of pigmented adhesives are possible, no particular adhesive comprising an energy absorbing additive is exemplified. As will be appreciated, the Souder patent reference issued over 25 years ago (May 29, 1979). The examiner

will recognize from his own search that no body of art directed to reactivation of pre-applied adhesives comprising pigments/dyes, which adhesive may be reactivated using a radiant energy source as described and claimed by applicants, has emerged. Complete lack of related prior art 25 years following the issuance of Souder is convincing evidence of the non-obviousness of the claimed invention.

Souder does not render obvious use of a reactivatable pre-applied adhesive that can be reactivated upon exposure of less than about 10 seconds of radiant energy to bond substrates together.

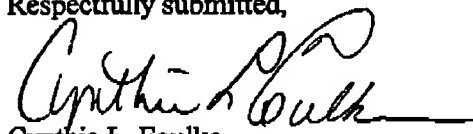
Applicants submit that Souder does not disclose or suggest the claimed invention.

Conclusion

The prior art does not disclose or suggest the elected species of the elected invention. Applicants request indication of allowance of the claims currently under consideration and early and favorable examination of the withdrawn species (claims 23, 25-28, 33 and 35-38).

Early and favorable action is solicited.

Respectfully submitted,



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September 21, 2004

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